

**REMARKS**

Applicants respectfully request reconsideration of this application, as amended.

**Substance of the Interview**

Applicants thank the Examiner for the courtesies extended to Applicants' representative during the interview conducted at the U.S. Patent and Trademark Office on November 16.

Applicants agree with the substance of the interview as described within the Interview Summary dated November 16.

**Claim Rejections**

Claim 11 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response, Claim 11 has been amended to cancel the feature "less than 100 square millimeters," which has been added as new Claim 26. Applicants respectfully submit that the § 112 rejection has been overcome.

Claims 1, 9, 10, 12 and 19 were rejected under 35 U.S.C. § 102(b) as being anticipated by DE 198 45 436, which corresponds to US 6,928,925 (hereinafter "Mayer '925").<sup>1</sup> Claims 11 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mayer '925 in view of WO 00/20217, which corresponds to US 6,811,858 (hereinafter "Mayer '858").<sup>2</sup>

Without acceding to the rejections under § 102 and § 103, Claims 1 and 19 have been amended to more clearly recite embossing "microstructures" as well as to explicitly recite that "at least one of" a height or a lateral structural size of the embossing microstructures is of an order of magnitude in the range of 5 to 100 microns, and a height or a lateral structural size of the embossing microstructures is of an order of magnitude of less than 1 micron such that a diffractive relief structure can be embossed therewith. Applicants respectfully submit that none of the cited references, taken singly or in combination, teaches or suggests these features.

**Claims 1 and 19 Are Allowable Over Mayer '925**

The present invention relates to a steel intaglio printing plate 8 that includes a printing plate surface 9 with at least one first area with steel intaglio structures 10 and at least one

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<sup>1</sup> DE 198 45 436 is written in German.

<sup>2</sup> WO 00/20217 is written in German.

second area with embossing microstructures 11. During the printing process, a substrate 3 of a security document is pressed into the steel intaglio structures 10, and also into the embossing microstructures 11, so that, on the one hand, ink is drawn from the steel intaglio structures 10 and adheres to the surface of substrate 3 and, on the other hand, the surface of substrate 3 is embossed in the area of the embossing microstructures 11, i.e., the surface is permanently deformed. See, e.g., Specification at Pages 3, 6, 7; FIGS. 1, 2, 3a–3c, 4d, etc.

FIG. 2 depicts an embodiment in which the height or lateral structural size of microstructures 11 is of an order of magnitude in the range of 5 to 100 microns (Page 7, 1<sup>st</sup> paragraph), while FIGS. 3a to 3c depict embodiments in which the height or lateral structural size of microstructures 11 is of an order of magnitude of less than 1 micron such that a diffractive relief structure can be embossed therewith (Page 7, 2<sup>nd</sup> paragraph). For all of the embodiments depicted in FIGS. 2 and 3a to 3c, the Specification teaches that:

Microstructures 11 are slightly recessed in printing plate surface 9 so that the uppermost microstructure areas, that is, the tips of the microstructure relief, are at small distance d below printing plate surface 9. Distance d measures between 20 and 100 microns, preferably between 40 and 60 microns.

Page 7 (3<sup>rd</sup> paragraph).

Claims 1 and 19 are directed to a steel intaglio printing plate and a method for producing a steel intaglio printing plate, respectively, and recite, *inter alia*, a height or a lateral structural size of the embossing microstructures that is of an order of magnitude in the range of at least one of 5 to 100 microns and less than 1 micron, and parts of the embossing microstructures closest to the printing plate surface that are located 20 to 100 microns below the printing plate surface. Mayer '925 fails to teach or suggest these embossing microstructures.

Instead, Mayer '925 discloses an engraved area 3b that may have a floor roughness pattern 7b which merely holds the ink on the floor when Mayer's printing plate is used in an intaglio printing process. See, e.g., FIG. 1; Col. 3:34–39. Importantly, Mayer '925 fails to teach or suggest any particular height or lateral dimension of his floor roughness pattern 7b, or whether his floor roughness pattern 7b is actually embossed onto the final product, i.e., on the surface of the printed ink. Rather, as shown in FIGS. 1–3, the surfaces of Mayer's ink layers 13a and 13b, as well as the depressions 11a and 11b of the data carrier 10, are smooth and do

not have an embossed roughness pattern. Therefore, in contrast to the claimed invention, only macrostructures are embossed with Mayer's intaglio printing plate.

Furthermore, Mayer's depths  $t_a$  and  $t_b$  of engraved areas 3a and 3b, respectively, denote the overall depths of each region, which may be flat (7a), have a floor roughness pattern (7b) or converge to a point (not depicted). *See*, e.g., Col. 3:34–39. Thus, the engraving depth  $t$  of each region corresponds to the distance between Mayer's printing plate surface and those parts of his embossing macrostructure that are furthest from his printing plate surface.

Consequently, Mayer '925 fails to teach or suggest at least one of a height or lateral structural size of embossing microstructures that is of an order of magnitude in the range of 5 to 100 microns and a height or lateral structural size of embossing microstructures that is of an order of magnitude of less than 1 micron such that a diffractive relief structure can be embossed therewith, and parts of the embossing structures closest to the printing plate surface are located 20 to 100 microns below the printing plate surface, as recited by Claims 1 and 19.

Moreover, Applicants submit that none of the remaining references, taken either singly or in combination, teaches or suggests all of the features recited by Claims 1 and 19. Accordingly, Claims 1 and 19 are allowable over the cited reference. Claims 9–13 and 26, depending from Claim 1, are also allowable, at least for the reasons discussed above.

### **Claims 11 and 13 Are Independently Allowable Over Mayer '925 in View of Mayer '858**

The Office Action admits that Mayer '925 fails to teach to suggest all of the features recited by dependent Claims 11 and 13, and cites Mayer '858 in support of its § 103 rejection. *See*, Office Action at Paragraph 5 (Page 4). Applicants submit that Mayer '858 fails to cure the deficiencies of Mayer '925 with respect to these features.

Mayer '858 discloses a printing plate that enables printing of a large area by the intaglio printing process. In order to achieve this, Mayer '858 teaches that the overall area is separated into contiguous chambers, or channels, by means of separating lands or partitions. These partitions apparently prevent ink in the engraving from being removed from the engraved surfaces when excess printing ink is wiped from the non-printing surface area. *See*, e.g., Col. 1:58 to Col. 2:7.

While Mayer '858 discloses a preferred range of distances "d" between partitions 4 (e.g., 20 microns to 150 microns apart; Col. 4:56-63), as well as partitions 4 that have a plateau formed on their upper end that is below the level of the printing plate surface 2 (e.g., 2 to 5 microns below; Col. 5:65 to Col. 6:17), Mayer '858 fails to teach or suggest a second area with embossing structures that has an area size of less than 400 square millimeters, as recited by Claim 11, or a second area with embossing structures that is separated from the first area with steel intaglio structures, or from another second area with embossing structures, by a separation bar extending as far as the printing plate surface or a molding plane, the separation bar having a width of at least 0.5 millimeters, as recited by Claim 13.

Accordingly, Claims 11 and 13 are independently allowable over the cited references.

### **Conclusion**

In view of the amendments and remarks presented herein, Applicants respectfully submit that this application is in condition for allowance and should now be passed to issue.

A Notice of Allowance is respectfully solicited.

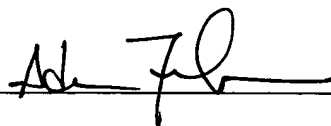
Alternatively, Applicants submit that the amendments presented herein place the claims in better form for consideration on appeal.

If any extension of time is required in connection with the filing of this paper and has not been requested separately, such extension is hereby requested.

The Commissioner is hereby authorized to charge any fees and to credit any overpayments that may be required by this paper under 37 C.F.R. §§ 1.16 and 1.17 to Deposit Account No. 02-2135.

Respectfully submitted,

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